

What is claimed is:

1. A high-frequency circuit element comprising  
a substrate,  
a high-frequency circuit formed on said substrate,  
a metal box electromagnetically shielding said high-frequency  
circuit by enclosing said substrate,  
an input/output terminal placed on said metal box and  
inputting/outputting a high-frequency signal to/from said high-frequency  
circuit, and  
at least one shielding element for interrupting an unwanted  
higher-order mode by suppressing the propagation of high frequency waves  
between the input-output terminals.
2. A high-frequency circuit element comprising  
a substrate,  
a high-frequency circuit formed on said substrate,  
a metal box electromagnetically shielding said high-frequency  
circuit by enclosing said substrate,  
an input/output terminal placed on said metal box and  
inputting/outputting a high-frequency signal to/from said high-frequency  
circuit, and  
at least one plate for interrupting an unwanted higher-order mode  
substantially dividing an internal space in said metal box and cutting off the  
propagation path for the high-frequency waves in the internal space of said  
metal box.
3. The high-frequency circuit element according to claim 2, wherein  
said plate for interrupting an unwanted higher-order mode is made of a  
conductor.
4. The high-frequency circuit element according to claim 3, wherein  
said plate for interrupting an unwanted higher-order mode is electrically  
connected to said metal box.
5. The high-frequency circuit element according to claim 2, wherein  
said plate for interrupting an unwanted higher-order mode is made of a

dielectric having a high dielectric constant.

6. The high-frequency circuit element according to claim 2, wherein said plate for interrupting an unwanted higher-order mode is placed spanning over and approximately perpendicular to at least one input/output line of said high-frequency circuit and placed so that it is not in an electric contact with said input/output line.

7. The high-frequency circuit element according to claim 6, wherein said plate for interrupting an unwanted higher-order mode has a cut-out so that it is not in electric contact with the input/output line of said high-frequency circuit.

8. The high-frequency circuit element according to claim 2, wherein said high-frequency circuit is a high-frequency filter.

9. The high-frequency circuit element according to claim 8, wherein said high-frequency filter has a plurality of coupled planar circuit resonators.

10. The high-frequency circuit element according to claim 2, wherein said high-frequency circuit is a superconductive high-frequency filter.

11. A high-frequency circuit element comprising  
a substrate,  
a high-frequency circuit formed on said substrate,  
a metal box electromagnetically shielding said high-frequency circuit by enclosing said substrate,  
an input/output terminal placed on said metal box and inputting/outputting a high-frequency signal to/from said high-frequency circuit, and  
at least one cover for interrupting an unwanted higher-order mode covering at least one input/output line of said high-frequency circuit in an internal space of said metal box, and suppressing the propagation of high-frequency waves.

12. The high-frequency circuit element according to claim 11, wherein said cover for interrupting an unwanted higher-order mode is made

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14. The high wherein said cover fo of a dielectric having

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wherein said high-frequency circuit is a high-frequency filter.

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wherein said high-frequency circuit is a superconductive high-frequency filter.